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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/198,779B

DATE: 08/08/2001  
TIME: 14:22:59

#12

Input Set : D:\Pa\_00130.rpt  
Output Set: N:\CRF3\08082001\I198779B.raw

ENTERED

The

1 <110> APPLICANT: Bledig, Stefan A.  
2 Byrum, Joseph R.  
3 Liu, Jingdong  
5 <120> TITLE OF INVENTION: Nucleic Acid molecules And Other Molecules Associated With  
6 Methionine Synthesis And Degradation Pathways  
8 <130> FILE REFERENCE: 38-21(15077)B  
10 <140> CURRENT APPLICATION NUMBER: US 09/198,779B  
11 <141> CURRENT FILING DATE: 1998-11-24  
13 <150> PRIOR APPLICATION NUMBER: US 60/067,000  
15 <151> PRIOR FILING DATE: 1997-11-24  
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20 <211> LENGTH: 235  
21 <212> TYPE: DNA  
22 <213> ORGANISM: Zea mays  
24 <220> FEATURE:  
25 <221> NAME/KEY: unsure  
26 <222> LOCATION: (1)..(235) *OK*  
27 <223> OTHER INFORMATION: unsure at all n locations  
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33 tgatccattg ttcgttgtgt tattaatggt gtataattga gcaggacaca acacgtacgt 120  
W--> 35 tnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnca ggttcatcaa gaccgccgca 180  
37 tacggccact ttggccgtga cgacgccgac ttcacctgcg aggtggtcaa gcccc 235  
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41 <211> LENGTH: 313  
42 <212> TYPE: DNA  
43 <213> ORGANISM: Zea mays  
45 <220> FEATURE:  
46 <221> NAME/KEY: unsure  
47 <222> LOCATION: (1)..(313) *OK*  
48 <223> OTHER INFORMATION: unsure at all n locations  
50 <400> SEQUENCE: 2  
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W--> 54 gtcggtagan cnagaagaan gcantngcgg cccganangtt ccttttcacn tcggagtccg 120  
W--> 56 tgnannaggc gcancccgac aagctgtgcg accagggtgc ggacgccgtg nttgacgent 180  
W--> 58 gctcncnca gnaccccgac ancaangtng cctgncacan gtgcaccaag accaactggt 240  
W--> 60 tgatggtgtt cggcgagntn acgaccaagg cgaccgttga ctannagaag atcgtnngnn 300  
W--> 62 acacntgccg cga 313  
65 <210> SEQ ID NO: 3  
66 <211> LENGTH: 77  
67 <212> TYPE: DNA  
68 <213> ORGANISM: Zea mays  
70 <220> FEATURE:  
71 <221> NAME/KEY: unsure  
72 <222> LOCATION: (1)..(77) *OK*  
73 <223> OTHER INFORMATION: unsure at all n locations

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75 <400> SEQUENCE: 3
W--> 77 ctgcgagacc ttcacnaaga ccaacatggt gatgttgntc ggcgnnatca cgaccnangc 60
W--> 79 tacngtggnac tacnaga 77
82 <210> SEQ ID NO: 4
83 <211> LENGTH: 279
84 <212> TYPE: DNA
85 <213> ORGANISM: Zea mays
87 <220> FEATURE:
88 <221> NAME/KEY: unsure
89 <222> LOCATION: (1)..(279) OK
90 <223> OTHER INFORMATION: unsure at all n locations
92 <400> SEQUENCE: 4
W--> 94 tcattcattga cacctacngt ggctggggag cccatggtgg tggcgctttc tccggcaagn 60
W--> 96 nnnnnnnnnn ngnnnnantgc agnnngncgt atntannaag gcacnatncn ttgatgtctg 120
98 cgatgacacg gactattctt ggagagcaaa gggcttccat gagcaagcaa aagctgccgg 180
100 tgttccggct attactactg ctggcatcta tccaggagtt agcaatgtga tggctgctga 240
W--> 102 cttgtacatg tgccagaagt gaaaatgnga acctgaaga 279
105 <210> SEQ ID NO: 5
106 <211> LENGTH: 211
107 <212> TYPE: DNA
108 <213> ORGANISM: Zea mays
110 <220> FEATURE:
111 <221> NAME/KEY: unsure
112 <222> LOCATION: (1)..(211) OK
113 <223> OTHER INFORMATION: unsure at all n locations
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W--> 117 ggaccgcagc ggcgcntang tggccaggca ggccgcgaag agnatcntgg ncagnggatc 60
W--> 119 gcncgcngct gcctcgtgca ggtgtacgta cnccatnggn tggccggann ccctgnccgt 120
W--> 121 gttcgtnaac tcgtacgagc accggcacgn tnaangncaa ggagatcntc aanatcntna 180
W--> 123 naggagaact tcgacttcag gcccgggatg a 211
126 <210> SEQ ID NO: 6
127 <211> LENGTH: 266
128 <212> TYPE: DNA
129 <213> ORGANISM: Zea mays
131 <400> SEQUENCE: 6
133 gtctgttttt tttccccatt aattgtcaat ctacaattca aatcacattc acaatgggta 60
135 gcgtcagcca caagacagga actttcctgt tcacctccga gtccgtaggt gaaggtcacc 120
137 ctgacaagat cgctgatcag gtctctgacg ccgttctcga tgctgtctg gccgaggacc 180
139 ctctctccaa agtcgcttgc gagactgcta ccaagaccgg tatgatcatg gtcttcgggtg 240
141 aatcaccac caaagccaag ctgat 266
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145 <211> LENGTH: 168
146 <212> TYPE: DNA
147 <213> ORGANISM: Zea mays
149 <220> FEATURE:
150 <221> NAME/KEY: unsure
151 <222> LOCATION: (1)..(168) OK
152 <223> OTHER INFORMATION: unsure at all n locations
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W--> 156 gggggcggtt ccnccagttc tgtgggngct accgtgtagn ntcgtcggcc gatncacgcn 60
W--> 158 tctaangntg agtcgggtcna caacgacgan atcgccgngg acctcangga gcacgtcnnc 120
W--> 160 annncgtga tgnctgataa gtacctcgac gagaagacca tcttnac 168
163 <210> SEQ ID NO: 8
164 <211> LENGTH: 570
165 <212> TYPE: DNA
166 <213> ORGANISM: Zea mays
168 <220> FEATURE:
169 <221> NAME/KEY: unsure
170 <222> LOCATION: (1)..(570) OK
171 <223> OTHER INFORMATION: unsure at all n locations
173 <400> SEQUENCE: 8
W--> 175 ggnnnnnnnn aacttctagn tgnnccggtgc cgtcanaaat tcaagggtcn acccacgcgc 60
W--> 177 cgaacacgcn tccgcccacg cgtccgcca cgcgtccgga ctagtcttag atggcggtgc 120
179 gctttctccg gcaaggaccc aaccaagggt gaccgcagcg gaggctatgt cgcgaggagg 180
181 ctgccaagag catcgtcgcc agcggccttg ctgcgcgcgc catcgccag gtgtccacgc 240
183 catcggcgtg cccgagcctc tctccgttgt ttgtcgaca acttaaggca accggcgcca 300
185 tcccccgaca agggagattc ctcaaagatt gtcaaaggga gaaatttoga atttaagggc 360
W--> 187 cttggcaatg attaataaat caaacctttg aacctccaaa gaaaaanggc gggaaacngg 420
W--> 189 cggctaacct cnaanaacgg gcaagcctaa tggggcaact tcggaaaggg gaaaccctgg 480
W--> 191 actttcacct gggaaagggt ggtgaaaacc cactcaaant cggggggaaa actttcggcc 540
W--> 193 tnaaaggggg gccttttttt tnaataaana 570
196 <210> SEQ ID NO: 9
197 <211> LENGTH: 473
198 <212> TYPE: DNA
199 <213> ORGANISM: Zea mays
201 <220> FEATURE:
202 <221> NAME/KEY: unsure
203 <222> LOCATION: (1)..(473) OK
204 <223> OTHER INFORMATION: unsure at all n locations
206 <400> SEQUENCE: 9
W--> 208 tcttnagtgt ncnngncgc ctgcctcgt tttgggcccc ggccccctat aatgagtcaa 60
W--> 210 ntanncgctc cgaatttttt tcnctngaa nanttgntcn ngggcggcgc catggtgccg 120
W--> 212 tccgcgtgca naccgtgctc atctccaccc agcacanega nccgtggga acgncganc 180
W--> 214 nccgcnngnn tcnaggggna cgtcatcaag cccgtgatcc ctgngacgtn cctcnggaga 240
W--> 216 agacntctt ccacctcnnc cgcctcgggc gcttctcan cggcnngccc cncgggacgc 300
W--> 218 cggcctcacc ngccgcnnga tcatctcgg gncatncgg cngctgggga gccccttttt 360
W--> 220 tggcgcttc tcnngnnng gnccttagca ncggtngacc gcanccggcg ctantgnccc 420
W--> 222 tnnagccn ccancanna tcttgccag cggcctcngc ccgncgncn cct 473
225 <210> SEQ ID NO: 10
226 <211> LENGTH: 428
227 <212> TYPE: DNA
228 <213> ORGANISM: Zea mays
230 <220> FEATURE:
231 <221> NAME/KEY: unsure
232 <222> LOCATION: (1)..(428) OK
233 <223> OTHER INFORMATION: unsure at all n locations
235 <400> SEQUENCE: 10
W--> 237 acctaaagg ttacgttatc aagccngtca tccaganag gggcggggga ctagaagacg 60

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W--> 239 ntgntncacc tcaaccgctc ngggcgcttn ntcacngcg ggccccacgg tgactcctnn 120
W--> 241 ctcaccggcc ancaagatca tcatngacac ctacggcnnc tggggagccc acnncgnggg 180
W--> 243 cgccttcttc ggnaaggacc ccaccaaggt gnaccnnaan ggggcctacn tcgccnnnca 240
W--> 245 tgnegtcaag agcattgtgg ccagncgcct nttncnacgc ttgctcgtgc aggtgtacta 300
W--> 247 cgncatcggc gtgcctgaan cnccttcant ntgcgttgaa ttctanagna accgggacca 360
W--> 249 ttcccgacaa gganaatctt aaagatngtt aangatnaac tttnccttcaa ggnccnggnt 420
      251 gatcacca 428
      254 <210> SEQ ID NO: 11
      255 <211> LENGTH: 87
      256 <212> TYPE: DNA
      257 <213> ORGANISM: Zea mays
      259 <220> FEATURE:
      260 <221> NAME/KEY: unsure
      261 <222> LOCATION: (1)..(87) OK
      262 <223> OTHER INFORMATION: unsure at all n locations
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W--> 268 gatntgncgc tngcttatca ttttact 87
      271 <210> SEQ ID NO: 12
      272 <211> LENGTH: 444
      273 <212> TYPE: DNA
      274 <213> ORGANISM: Zea mays
      276 <220> FEATURE:
      277 <221> NAME/KEY: unsure
      278 <222> LOCATION: (1)..(444) OK
      279 <223> OTHER INFORMATION: unsure at all n locations
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W--> 283 tnatgttggt cggcgagatc accaccaang cgagngtnta ctacgagaag atngtgcgcg 60
W--> 285 acacctgccc cgagatctgg ttacacctcn acnacntggg ggctcgaccc caccnctcaa 120
W--> 287 ggtgcttggt aacatttaca ncaatcccc acattcccaa ggcnttcacn ggcactttaa 180
W--> 289 caaaacgncc naaggaaaat cgcccccgcn aacaaagcca aatttttcgg tccccacccc 240
W--> 291 ancanacncc caacttatcc cccttaacca cctgcttgca ccaaactttt tnnccccct 300
W--> 293 tantcgaagt tcnaaaagga cngnaccttt cctttgttaa accccaaagn aaaaaccaa 360
W--> 295 ttaccgcttn nantntntta aaaaaaggcc gncacctntt nccccctttc cnttcacaac 420
W--> 297 cctnttttat tttttannca aaaa 444
      300 <210> SEQ ID NO: 13
      301 <211> LENGTH: 513
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      303 <213> ORGANISM: Zea mays
      305 <220> FEATURE:
      306 <221> NAME/KEY: unsure
      307 <222> LOCATION: (1)..(513) OK
      308 <223> OTHER INFORMATION: unsure at all n locations
      310 <400> SEQUENCE: 13
W--> 312 gnnngnnnngn ggtaattcna cgccggangg taccggtcag cnaattcccc ggtcnaccca 60
      314 cgcgtccgaa ggggtgtgcat ggccacttca ccaagcgccc cgaggagatt ggagctggtg 120
      316 accagggaca catgttcggg tatgcgaccg atgagacccc tgagttgatg cccctcagcc 180
      318 atgtccttgc caccaagcta ggtgctcgtc tcaccgaggt ccgcaagaac ggaacctgcc 240
      320 cctggctcag gcctgatggg aagaccaggt tgacagtcga gtaccgcaat gaggggtggtg 300

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322 ccatgggtccc catcogtgtc cacacogtcc tcatctccac ccagcacgac gagacagtga 360
324 ccaatgatga gatcgtgtgt gacctgaagg agcatgtcat caagcctgtc atccctgagc 420
326 agtaccttga cgagaagacc atcttccacc ttaacccatc tggccgcttt gtcattgggtg 480
W--> 328 gacctcaang cgaatctggg ctcaatgggc nca 513
331 <210> SEQ ID NO: 14
332 <211> LENGTH: 520
333 <212> TYPE: DNA
334 <213> ORGANISM: Zea mays
336 <220> FEATURE:
337 <221> NAME/KEY: unsure
338 <222> LOCATION: (1)..(520) OK
339 <223> OTHER INFORMATION: unsure at all n locations
341 <400> SEQUENCE: 14
W--> 343 gnnnggnggt nntnntgnag gggngtgnan ggaaanttgt accggtncgg aattccccggg 60
345 tcgacccacg cgtccgtgat ccctgagaag tacctcgacg agaagaccat cttccacctc 120
347 aaccogtccg ggcgtctcgt catcggcggg cccacgggtg acgcccgcct caccggccgc 180
349 aagatcatca tcgacacgta cggcggctgg ggagcccacg gcggtggcgc cttctccggc 240
351 aaggacccca ccaaggtgga ccgcagcggc gcctacgtgg ccaggcaggc cgccaagagc 300
353 atcgtggcca gcggcctcgc ccgcogctgc ctogtgcagg tgcgtacgc catcggcgtg 360
355 ccggagcccc tgcctgtgtt cgtcaactcg tacggcaccg gcacgatccc cgacaaggag 420
W--> 357 atcctcaaga tcgtgaagga gaacttcgac ttcagcccgg gatgatcaag catcaacctn 480
W--> 359 gacctgaaag aaaggcngna acanggtcat taaaaaccgc 520
362 <210> SEQ ID NO: 15
363 <211> LENGTH: 511
364 <212> TYPE: DNA
365 <213> ORGANISM: Zea mays
367 <220> FEATURE:
368 <221> NAME/KEY: unsure
369 <222> LOCATION: (1)..(511) OK
370 <223> OTHER INFORMATION: unsure at all n locations
372 <400> SEQUENCE: 15
W--> 374 gtggggnttn gnggnatttn taggccgnnc gtaccggacc ngaaattccc gggccacccc 60
376 acgcgtccgc aagacccctg agctgatgcc cctcagccat gtccttgcca ccaagcttgg 120
378 tgctcgtctc acggagggtc gcaagaatgg aacctgcccc tggctcaggc ccgatgggaa 180
380 gacccagggtg acagtggagt accgcaacga ggggtggcgc atggttccca tccgtgtgca 240
382 cacagtcttc atctctaccc agcacgacga gacagtccac aacgacgaga ttgctgctga 300
384 cctgaaggag cagtcacatc agccagtcac ccccgagcag tacctcgacg agaagacaat 360
386 cttccacctc aaccogtctg gccgcttcgt catcggcggg cctcacggcg acgctggcct 420
388 cactggccgg aagatcatca tcgacacctc cgggtggctgg ggaacccacg gcggggggcg 480
390 cttctccggc aaggacccga caaggtggac c 511
393 <210> SEQ ID NO: 16
394 <211> LENGTH: 483
395 <212> TYPE: DNA
396 <213> ORGANISM: Zea mays
398 <220> FEATURE:
399 <221> NAME/KEY: unsure
400 <222> LOCATION: (1)..(483) OK
401 <223> OTHER INFORMATION: unsure at all n locations
403 <400> SEQUENCE: 16

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## VERIFICATION SUMMARY

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Input Set : D:\Pa\_00130.rpt

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L:35 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1  
L:52 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:54 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:56 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:58 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:60 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:77 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:79 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:96 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:102 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:117 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:119 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:121 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:123 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:175 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:177 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
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L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:212 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:214 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
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L:218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:220 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:249 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:266 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11  
L:268 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11  
L:283 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:285 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:287 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12

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L:295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12

L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12